

NEW SPECIES OF *HAPLOPOGON* ENGEL
WITH A KEY TO THE SPECIES
(DIPTERA: ASILIDAE)

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The genus *Haplopogon* Engel, described from Turkestan, was found to occur in America by Pritchard (1941). Included were *Holopogon latus* Coquillett (1904) and *Holcocephala bullata* Bromley (1934) from Texas, and *Haplopogon erinus* Pritchard (1941) from Arizona. Martin (1955) described *triangulatus* from Texas. In the present paper, three species are described as new, and figures of the wings and male genitalia are given along with a revised key to the species.

These small flies, length 4 to 7 mm., are black and densely polli-nose, with the basal portion of the wings brown and the apex hyaline or lighter in color. The costal and basal cells are brown in the wings of all species, so these cells are usually not mentioned specifically in the descriptions or key. The male genitalia are non-rotate and the female ovipositor is without a terminal circling of spines. The surstyli or the ninth tergite, are broad basally and taper apically, and are the dorsal or superior forceps of Pritchard (1941), gonocoxites of Martin (1955), or superior forceps of Hull (1962).

The type series of *Haplopogon erinus* Pritchard was collected "in wheatfield" near Globe, Arizona. At Portal, Arizona, it was collected on the tips of the twigs or on the dead flowers of tar-bush, *Flourensia cernua* D.C., about two feet high, 2 miles northeast of town, 29 and 30. May 1962 (J. Wilcox) and 1 mile north west of town, 23 June, 1964 (Eric Fisher). *H. utahensis* new species was collected mostly on the tips of purple sage and a few on creosote-bush one to two feet high between 8 and 10 o'clock in the morning. *H. triangulatus* Martin was collected 15 miles south of Marathon, Brewster Co., Texas, 26 June, 1964 (Eric Fisher). These flies apparently occur only in the spring, from March to June.

Haplopogon Engel belongs in the subfamily Dasypogoninae and in the tribe Damalini (Hull, 1962). This tribe has the ovipositor apically with fine hairs, face on either side below with deep grooves and head from anterior view from one and one-half to two times

as wide as high. The Nearctic genera can be separated by the following key:

1. Third antennal segment short and broad, wider than segments one and 2, style long, bristle-like 2
 Third antennal segment slender, narrower than antennal segment 2, style short globular or tapering, at most subequal in length to segment 3 3
2. Third antennal segment $1\frac{1}{2}x$ length of segments 1-2, style longer than segment 3; anal cell of wings long petiolate (*Damalis americana* Curran, Arizona, 7.5 mm.) *Orrhodops* Hull
 Third antennal segment $\frac{2}{3}$ length of segments 1-2, style longer than segments 1-3; anal cell short petiolate (*flavidorsis* E. Hardy, Arizona, 18 mm.) *Bromleyeus* E. Hardy
3. Style of antennae short globular, one segmented and about $\frac{1}{3}$ length of segment 3; head from anterior view about 2x as wide as high "goggle-like"; mystax confined to oral margin (Texas and east) *Holcocephala* Jaennicke
 Style of antennae tapering apically, two segmented, from half to subequal in length to segment 3; head from anterior view about $1\frac{1}{2}x$ as broad as high, not "goggle-like"; mystax extends at least half way to antennae (Texas and west) *Haplopogon* Engel

Orrhodops Hull and *Bromleyeus* E. Hardy are represented by single species in the Nearctic region and are indicated in the above key. *Holcocephala* Jaennicke is represented by three species in the middle western and eastern states, for a review of these and the Central American species see Pritchard 1938.

KEY TO THE SPECIES OF *Haplopogon*

1. Axillary cell of the wings infuscated 2
 Axillary cell of the wings all or largely hyaline or milky 4
2. Mesonotum brown pollinose, hairs dense erect and as long as antennal segments 1-2; wings light brown, basally dark brown including anal and axillary cells, anterior crossvein at $\frac{21}{41}$ length of discal cell; antennae measure 5-8-19-22; length 5-7 mm. (Texas) *bullatus* (Bromley)
 Margins of mesonotum light brown to grayish pollinose, hairs sparse recumbent and not longer than antennal segment 2 3

3. Central and intermediate areas of mesonotum confluent, deep brown, humeri and lateral anterior portion gray pollinose; brown of wings filling discal cell and base of posterior cells 1-3 and remaining basal portions of wings, anterior crossvein at $20/36$ length of discal cell; antennae measure 8-10-18-20; length 6-7 mm. (Texas) *latus* (Coquillett)
 Central and intermediate areas of mesonotum brown to light brown, confluent or separated, lateral and posterior margins grayish white pollinose; apical $\frac{1}{3}$ of discal and posterior cell 4 hyaline, anterior crossvein at $10/31$ length of discal cell; antennae measure 5-7-17-13; length 4-6 mm. (Arizona) *erinus* Pritchard
4. Discal and posterior cells 4-5 largely infuscated 5
 Discal and posterior cells 4-5 largely hyaline 6
5. Lower half of anal cell and axillary cell entirely hyaline, anterior crossvein at $17/32$ length of discal cell; anterior half of mesonotum largely whitish pollinose; antennae measure 5-8-19-10; length 4-6 mm. (Utah) *utahensis* new species
 Anal cell wholly and narrow basal margin of axillary cell infuscated, anterior crossvein at $10/29$ length of discal cell; central stripe of mesonotum light brown and extending to pronotum, intermediate spots indistinctly light brown, humeri and margins yellowish gray; antennae measure 4-7-16-10; length 4-5 mm. (Texas) *triangulatus* Martin
6. Central stripe and intermediate area of mesonotum confluent, light brown, broadly margined with gray pollen; anal and posterior cell 5 narrowly brown basally, anterior crossvein at $11/35$ length of discal cell; antennae measure 6-8-21-16; length 5 mm. (Arizona) *parkeri* new species
 Mesonotum grayish white pollinose, the intermediate spots faintly light brown; anal and axillary cells white, posterior cells hyaline, anterior crossvein at $8/24$ length of discal cell; antennae measure 5-6-12-10; length 4 mm. (Arizona) *dicksoni* new species

Haplopogon dicksoni, new species

Figure 1

Male: Length 4 mm. Head black, densely white pollinose. Hairs and bristles white; mystax composed of long hairs extending about half way to antennae; face at antennae $12/17$ width of one eye. Antennae black, golden pollinose; hairs white, $\bar{3}$ short ones dorsally

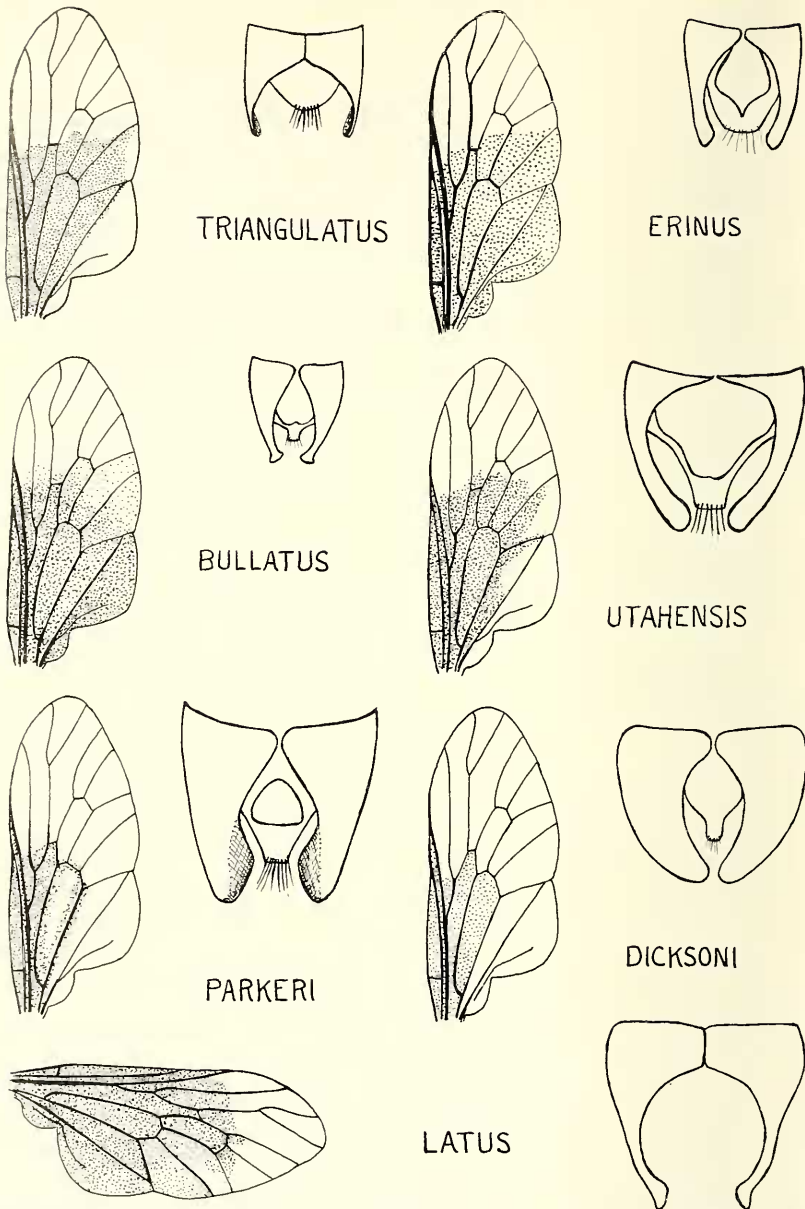


Figure 1. Wings of *Haplopogon* species (to left of species name) and dorsal view of surstyli of male genitalia (above species name except *latus* which is to the right). The surstyli of *latus* was drawn from Pritchard (1941) as no male specimens were available. The proctiger (anus or tergite 10) is shown between the surstyli except in *latus*.

on segment 3 and a long one apically; segments measure 5-6-12-10.

Mesonotum black, densely white pollinose. the intermediate area indistinctly light brown. Hairs white, sparse recumbent, longer erect in the dorsocentral rows posteriorly. Pleura and coxae densely white pollinose, hairs white. Scutellum black, densely white pollinose, about 12 short fine white discal hairs.

Abdomen black, densely white pollinose, dorsum subshining black. Hairs sparse white, long laterally and short dorsally. Venter white pollinose, hairs white. Genitalia shining black, hairs white. surstyli broad narrowing basally, much broader than other species.

Legs black; hairs and bristles white; claws black, yellowish basally; pulvilli white.

Halteres yellowish white, stem brown. Wings hyaline, anal and axillary cells milky white, costal and basal cells light brown; veins yellowish basally, brown apically, anterior crossvein at $8/24$ length of discal cell.

Female: Length 5 mm. Face at antennae $17/25$ width of one eye. Antennal segments measure 5-8-17-16. Mesonotum grayish white pollinose, posterior intermediate spots brownish; scutellum light brownish pollinose. Abdomen grayish pollinose, tergites 2-6 subshining black dorsally; sternite 8 and ovipositor black with white hairs. Knob of halteres light red, lower stem brown. Brown of wings extends narrowly into base of discal and posterior cells 4-5, and narrow dorsally in anal cell; anterior crossvein at $18/38$ length of discal cell.

Holotype: Male, 10 mi. E. Aztec, Maricopa Co., Arizona, 8 April 1963 (R. C. Dickson), UCR. Swept from *Sphaeralcea*.

Named for R. C. Dickson who collected this specimen and who has turned up other rare species of Asilidae.

Allotype: Female, 18 mi. S. Gila Bend, Arizona, 18 April 1965 (Mont A. Cazier), Arizona State University.

Paratypes: 3 ♂♂, 2 ♀♀, same data as Allotype. 8, 12 and 18 May 1965 (M. A. Cazier, M. Mortenson, J. Wilcox); 10 ♀♀, 5 mi. E. Aztec, Arizona (Spot Rd.), 11, 20 May 1965 (J. Wilcox); 4 ♀♀, one mi. E. Mohawk, Arizona, 11 May 1965 (J. Wilcox).

Haplopogon parkeri, new species

Figure 1

Male: Length 5 mm. Head black, densely white pollinose. Hairs and bristles white, mystax extending three-fourths distance to anten-

nae, hairs above shorter; face at antennae $16/25$ width of one eye. Antennae black, golden pollinose; hairs white, 3 above on segment 3 the apical one the longest; segments measure 6-8-21-16.

Mesonotum black, humeri and broad margins gray pollinose, central and intermediate spots brown confluent. Hairs white, semi-recumbent and about as long as second antennal segment, longer laterally and in posterior dorsocentral rows. Pleura and coxae grayish white pollinose, hairs white. Scutellum grayish white pollinose, about 30 white discal hairs.

Abdomen brownish black, densely gray pollinose laterally, thin dorsally subshining. Hairs long sparse white, only slightly shorter dorsally. Venter gray pollinose, hairs white. Genitalia black, tips of surstyli and lower forceps brown, hairs white.

Legs black; hairs and bristles white; claws black, reddish basally; pulvilli white.

Halteres yellowish white, stem brown. Wings hyaline; costal and basal cell, narrow margin of anal cell, narrow base of discal and posterior cell 4-5, brown, second basal cell with a central hyaline streak; veins brown, anterior crossvein at $11/35$ length of discal cell.

Female: Length 5 mm. Antennal segments measure 6-8-20-13. Dorsum of abdominal segments 1-8 shining black, broad sides and venter gray pollinose. Ovipositor black, dorsum thinly grayish pollinose; hairs white and quite dense especially on venter. Basal third of the anal cell and basal fourth of the axillary cell, brown.

Holotype: Male, McMillan, Arizona, 28 June 1949 (J. Wilcox).

Named in honor of Frank H. Parker of Globe, Arizona, who has collected many species of Arizona Asilidae.

McMillan is a ghost town about 15 miles north of Globe on U.S. Highway 60 and is not shown on recent highway maps. *H. erinus* Pritchard was collected 10 to 15 miles north of Globe but I believe this was on State Highway 88 north west of Globe.

Allotype: Female, Globe, Arizona (Jct. Hwys. 60 and 70), 19 May 1965 (J. Wilcox).

Paratypes: 2 ♂♂, 4 ♀♀, same data as Allotype, 18, 19 May 1965. Collected mainly on dead twigs of *Acacia*, three to five feet high.

***Haplopogon utahensis*, new species**

Figure 1

Male: Length 5 mm. Head black, densely white pollinose. Hairs and bristles white; mystax extending two-thirds distance to anten-

nae, hairs shorter above; face at antennae 15/21 width of one eye. Antennae black, golden pollinose; hairs white, 4 long hairs above on segment 3; segments measure 5-8-19-10.

Mesonotum black, white pollinose anteriorly, central stripe behind suture and intermediate spots extending slightly anterior to suture brown pollinose, posterior lateral margins light brown. Hairs white, semirecumbent and about as long as antennal segment 2, longer erect in posterior dorsocentral rows. Pleura and coxae white pollinose, hairs white. Scutellum light brown pollinose, about 24 short white discal hairs.

Abdomen black, white pollinose, the dorsum thinly so and appearing shining black. Hairs short white, longer on the sides of the segments. Venter white pollinose, hairs white. Genitalia black, tips of surstyli brown, hairs white.

Legs black; hairs and bristles white; claws black, reddish basally; pulvilli white.

Halteres yellowish white, stem brown. Base of wings brown, extending from end of first vein to anterior crossvein, filling basal three-fourths of discal and posterior cell 4, a touch at base of posterior cell 3, basal half of posterior cell 5 and anal cell, and a touch at base of axillary cell; apex hyaline; veins brown, anterior crossvein at 17/32 length of discal cell.

Female: Length 5 mm. Mesonotum anteriorly yellowish gray pollinose and central brown stripe extending anterior to suture about half way to pronotum. Pleura and coxae gray pollinose. Ovipositor shining black, hairs white. A touch of brown at base of posterior cell 1 and about the basal three-fourths of the anal cell brown.

Holotype: Male. 7 mi. N. of St. George, Utah, Hwy. 91, 1 June 1963 (J. Wilcox).

Allotype: Female, same data.

Paratypes: 15 ♂♂, 43 ♀♀, same data, 1, 2 June 1963. Collected mainly on the tips of purple sage and a few on creosote-bush, 1 to 2 feet above the ground in the morning from 0800 to 1000 hours.

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